UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,084	09/12/2003	Brian D. Petry	ASTU-007/01US 017622-2016	6604

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EXAMINER
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ART UNIT	PAPER NUMBER
2453	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/661,084	PETRY ET AL.
	Examiner	**Art Unit**	
	Liangche A. Wang	2453	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _03 September 2009_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _1-44_ is/are pending in the application.
    4a) Of the above claim(s) _21-34_ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-20 and 35-44_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1. Claims 1-20, 35-44 are presented for examination.

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/3/09 has been entered.

Allowable Subject Matter

3. The Examiner contacted Attorney Steven Tietsworth, and proposed allowable subject matters to the attorney, however, after couple attempts, no response was received.

4. The examiner proposes to allow the claim as follow:

   1 (amended). A method of flow control implemented by a system disposed to execute a protocol stack and an application, said method comprising the steps of:

   configuring the protocol stack to operate in a push mode pursuant to which the protocol stack initiates the forwarding, to the application, of a first sequence of data packets received by the protocol stack;

   generating, at the application, a first input notification determinative of an operative mode of the protocol stack; ~~and~~

switching, responsive to the first input notification, the protocol stack from

operation in the push mode to operation in a pull mode pursuant to which the application

initiates the forwarding, to the application, of a second sequence of data packets received

by the protocol stack[[.]];

transitioning the system from operation in the push mode to operation in the pull

mode in response to a first input notification wherein the first input notification includes a

receive sequence number corresponding to a sequence number of a data packet which, upon

receipt at the protocol stack, induces the transitioning the system from operation in the push

mode; and

transitioning the system from operation in the pull mode to operation in the push

mode in response to a second input notification wherein the second input notification

includes a receive sequence number corresponding to a sequence number of a data packet

which, upon receipt at the protocol stack, induces the transitioning the system from operation

in the pull mode.

35 (amended). A stateful protocol system comprising:

a protocol core configure to execute a protocol stack; and

a processor configured to execute an application wherein the application generates

a first input notification determinative of an operative mode of the protocol stack;

said protocol core switching, responsive to the first input notification, the protocol

stack from operation in a push mode pursuant to which the forwarding of data packets

received by the protocol stack is initiated by the protocol stack to operation in a pull

mode pursuant to which the forwarding of the data packets is initiated by the application[[.]];

wherein the processor further configured to transition the system from operation in

the push mode to operation in the pull mode in response to a first input notification wherein

the first input notification includes a receive sequence number corresponding to a sequence

number of a data packet which, upon receipt at the protocol stack, induces the transitioning

the system from operation in the push mode; and

wherein the processor further configured to transition the system from operation in

the pull mode to operation in the push mode in response to a second input notification

wherein the second input notification includes a receive sequence number corresponding to a

sequence number of a data packet which, upon receipt at the protocol stack, induces the

transitioning the system from operation in the pull mode.

Response to Arguments

5. Applicant's arguments filed 7/29/09, have been fully considered but they are not

persuasive.

6. Applicant argues that Eydelman does not teach whether transfer to an application is done

in a push or pull fashion. In response to applicant's argument, "large receiving mode" in

Eydelman corresponds to "push mode" (transport provider transfer the data) and

"discover mode" in Eydelman corresponds to "pull mode" (transport provider receives

the data)(para 0047).

7. Applicant also argues that Wang fails to describe anything about generating a first input

notification determinative of an operative mode of the protocol stack. In response to

applicant's argument, Wang teaches generating, at the application (WAP controller), a

first input notification (request) determinative of an operative mode of the protocol stack

(requesting a service)(Col 9 lines 15-32).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

9. Claims 1-20, 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Eydelman et al., US Publication Number 2002/0007420, hereinafter Eydelman, in views

of Wang et al., US Patent Number 7,039,037, hereinafter Wang.

10. Referring to claim 1, Eydelman teaches a method of flow control implemented by a

system disposed to execute a protocol stack and an application (page 1 [0002]), said

method comprising the steps of: configuring the protocol stack to operate in a push mode

pursuant to which the protocol stack (transport provider) initiates the forwarding, to the

application, of a first sequence of data packets received by the protocol stack (large

receiving mode, page 5 [0047]); and configuring the system to operate in a pull mode

pursuant to which the application initiates the forwarding, to the application, of a second

sequence of data packets received by the protocol stack (discovery mode, page 3 [0027],

[0030], page 5 [0047]).

Eydelman does not explicitly teaches, generating, at the application, a first input notification determinative of an operative mode of the protocol stack; and switching, responsive to the first input notification, the protocol stack from operation in the push mode to operation in a pull mode.

Wang teaches generating, at the application (WAP controller), a first input notification (request) determinative of an operative mode of the protocol stack (requesting a service)(Col 9 lines 15-23); and switching, responsive to the first input notification, the protocol stack from operation in the push mode to operation in a pull mode (Col 9 lines 15-32, the pull mode is initiated by a WAP device requesting a service or information from a server, therefore if the system is currently in a push mode and receives a request from WAP device, the system will switch from the push more to the pull mode in response to the request).

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the mode switching technique of Wang in Eydelman because Eydelman discloses a protocol stack operating in both pull and push mode. And Wang suggests having the protocol stack to switch from a push mode to a pull mode in responsive to a service request.

A person with ordinary skill in the art would have been motivated to make the modification to Eydelman because having the WAP controller to switch the WAP traffic from and to pull and push mode would allow flexible controls and management to the network traffic as suggested by Wang.

11. Referring to claim 2, Eydelman teaches the method of claim 1 further including

transitioning the system from operation in the push mode to operation in the pull mode in

response to a first input notification, wherein the push mode and the pull mode constitute

mutually exclusive modes of operation (page 3 [0027]).

12. Referring to claim 3, Eydelman teaches the method of claim 1 further including

transitioning the system from operation in the pull mode to operation in the push mode in

response to a second input notification (page 3 [0027]).

13. Referring to claim 4, Eydelman teaches the method of claim 2 wherein the first input

notification includes a receive sequence number corresponding to a sequence number of a

data packet which, upon receipt at the protocol stack, induces the transitioning the system

from operation in the push mode (page 3 [0027]).

14. Referring to claim 5, Eydelman teaches the method of claim 3 wherein the second input

notification includes a receive sequence number corresponding to a sequence number of a

data packet which, upon receipt at the protocol stack, induces the transitioning the system

from operation in the pull mode (page 3 [0027]).

15. Referring to claim 6, Eydelman teaches the method of claim 1 further including sending,

from the protocol stack to the application, receive data indications containing ones of the

first sequence of data packets when the protocol stack is functioning in an always forward

mode invoked during operation of the system in the push mode (page 5 [0047]).

16. Referring to claim 7, Eydelman teaches the method of claim 6 wherein the protocol stack

assumes that the first sequence of data packets are consumed upon delivery to the

application and frees storage corresponding to the first sequence of data packets upon the

sending of the receive data indications (page 6 [0056]).

17. Referring to claim 8, Eydelman teaches the method of claim 7 wherein the protocol stack

advertises a new window to a peer entity upon freeing of the storage (page 6 [0056]).

18. Referring to claim 9, Eydelman teaches the method of claim 6 wherein the protocol stack

postpones freeing, within memory associated with the protocol stack, storage

corresponding to the first sequence of data packets until confirmation is received from the

application that the first sequence of data packets has been consumed by the application

(page 6 [0056]).

19. Referring to claim 10, Eydelman teaches the method of claim 1 further including utilizing

credit-based flow control during operation of the system in the push mode, the credit-

based flow control including configuring the application to provide buffer credits to the

protocol stack (page 7 [0064]).

20. Referring to claim 11, Eydelman teaches the method of claim 10 wherein the credit-based

flow control permits the protocol stack to forward ones of the data packets within the first

sequence to the application provided a sufficient number of the buffer credits remain

available (page 7 [0064], [0068-78]).

21. Referring to claim 12, Eydelman teaches the method of claim 1 further including sending,

from the protocol stack to the application, data available indications when the protocol

stack is functioning in an always buffer mode invoked during operation of the system in

the pull mode wherein the data available indications are generated at the protocol stack in

response to receipt of the data packets within the second sequence (page 3 [0027], page 5 [0047]).

22. Referring to claim 13, Eydelman teaches the method of claim 12 further including forwarding the second sequence of data packets from the protocol stack to the application upon receipt at the protocol stack of a read data request generated by the application (page 3 [0027], page 5 [0047]).

23. Referring to claim 14, Eydelman teaches the of claim 12 wherein the data available indications are generated upon receipt of the data packets within the second sequence without intervention of the application (page 3 [0027], page 5 [0047]).

24. Referring to claim 15, Eydelman teaches the method of claim 12 wherein generation of the data available indications is postponed until receipt at the protocol stack of a read data request generated by the application (page 3 [0027], page 5 [0047]).

25. Referring to claim 16, Eydelman teaches the method of claim 1 further including configuring the protocol stack to withhold acknowledgements which would otherwise be sent to an external peer entity upon receipt of the first sequence of data packets from the peer entity (page 3 [0027], page 5 [0047]).

26. Referring to claim 17, Eydelman teaches the method of claim 1 further including configuring the protocol stack to withhold acknowledgements which would otherwise be sent to an external peer entity upon receipt of the second sequence of data packets from the peer entity (page 3 [0027], page 5 [0047]).

27. Referring to claim 18, Eydelman teaches the method of claim 16 or 17 further including: sending an acknowledgement prompt indication event from the protocol stack to the

application, and sending the acknowledgements from the protocol stack to the external

entity upon receipt at the protocol stack of an acknowledgement prompt confirmation

from the application (page 3 [0027], page 5 [0047]).

28. Referring to claim 19, Eydelman teaches the method of claim 1 further including sending

a window available indication from the protocol stack to the application upon receipt at

the protocol of an open receive window indication from an external peer entity (page 3

[0027], page 5 [0047]).

29. Referring to claim 20, Eydelman teaches the method of claim 1 further including sending

a room available indication from the protocol stack to the application when sufficient

space exists in a send buffer associated with the protocol stack (page 6 [0056]).

30. Referring to claims 35-38, claims 35-38 encompass the same scope of the invention as

that of the claims 1-20.   Therefore, claims 35-38 are rejected on the same ground as the

claims 1-20.

31. Referring to claim 39, Eydelman teaches the method of claim 1 wherein the application is

configured to select a method of receiving data, said method including one of receive

data in push more and one of read response or scratchpad find data in pull mode (page 5

[0047]).

32. Referring to claims 40-44, Eydelman teaches push mode, pull mode and forwarding in

claim 1, and it is obvious for the person with ordinary skill in the art to name the push

and pull mode and forwarding in any names.

Conclusion

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liangche A. Wang whose telephone number is (571)272-3992. The examiner can normally be reached on Monday thru Friday, 8:30 am to 5:00 pm.

34. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on (571)272-6776. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

35. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Liang-che Alex Wang
December 3, 2009

/Liangche A. Wang/
Primary Examiner, Art Unit 2453